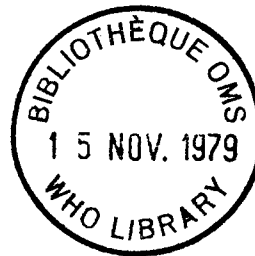




EXECUTIVE BOARD

Sixty-fifth Session

Provisional agenda item 20



INDEXED

DEVELOPMENT AND COORDINATION OF BIOMEDICAL AND  
 HEALTH SERVICES RESEARCH (INCLUDING RESEARCH STRENGTHENING  
 AND CAREER STRUCTURES IN DEVELOPING COUNTRIES)

Report by the Director-General

This document reports on the Organization's research promotion and development activities, with special emphasis on regional efforts and the two WHO special programmes on research and training, and summarizes progress made in preparing a medium-term programme for health research (MTP/RPD). This material is presented as a progress report for the information of the Board.

The report also includes a statement on research capability strengthening and career structures in developing countries. The Board is invited to consider this urgent problem and to advise on proposals for further action.

Finally, for the Board's information, there is a brief section on WHO's participation in the United Nations Conference on Science and Technology for Development (Vienna, 1979) in accordance with resolution WHA32.15 (May 1979).

This report was written before the twenty-first session of the global Advisory Committee on Medical Research (late November 1979). A further report on ACMR's deliberations, including the progress of the four newly established subcommittees, will appear subsequently as an addendum.

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## I. INTRODUCTION

1. The importance of research development and coordination in fulfilling the programme goals of the Organization was reaffirmed by the Executive Board at its sixty-third session, in January 1979. Subsequently, the World Health Assembly, considering that biomedical and health services research and the application of its results will be among the decisive factors for the attainment of the goal of health for all by the year 2000, requested the Director-General to accelerate the further development and application of activities that would promote the development and coordination of health research (resolution WHA32.15). The Health Assembly further requested the Director-General, inter alia, to ensure the active participation of WHO in the United Nations Conference on Science and Technology for Development.

2. An increasing number of research promotion and development activities are being carried out at national, regional and global levels, as definitive elements of the Organization's Sixth General Programme of Work. This document summarizes progress in research activities carried out at the regional level, as well as the work of the special programmes.<sup>1</sup> Information on the research components of other major technical programmes at the global level will be presented in the Director-General's biennial report on the work of WHO for 1978-1979. In addition, a section is provided on research capability strengthening and career structures in developing countries. Finally, a brief post-conference report on the United Nations Conference on Science and Technology for Development (Vienna, August 1979) is presented for the information of the Board.

## II. RESEARCH PROMOTION AND DEVELOPMENT (PROGRESS REPORTS)

### Regional research activities

3. The separate sections which follow summarize health research activities in each of the six WHO regions. The respective global and regional Advisory Committees on Medical Research (ACMRs) continue to play a central role in planning WHO's research initiatives.

#### (a) African Region

4. The Regional Committee has strongly encouraged the development of research activities, and six Member States have made a financial contribution to the special regional fund for medical research.

5. Subsequent to the second session of the African regional ACMR and its recommendations, a number of research activities have been initiated. Research priorities have been identified with regard to the major parasitic diseases (malaria, onchocerciasis, schistosomiasis), immunological research and health services research. A network has been set up comprising 43 national and three regional centres for research and training, and this network is being expanded. The Tropical Diseases Research Centre at Ndola, Zambia, is becoming a major research and training centre, with emphasis on field studies of new drugs and the epidemiology of tropical diseases. Moreover, a regional project to provide grants for research and research training is now operational and had made 14 awards up to September 1979. Workshops have been organized for training in research methodology and to develop the human reproduction programme in the Region. Finally, a proposal to launch an African health sciences publication is being studied, but financial and language problems have already been encountered.

6. The African ACMR held its third session in Ndola, Zambia, in November 1978. It recommended the establishment of a research promotion subcommittee to further stimulate country research activities; a health services research study group which would give priority to primary health care; and a diarrhoeal diseases control study group to prepare the regional component of the global diarrhoeal diseases control programme. The research promotion subcommittee visited 10 countries in 1979, and the two study groups have been formed and will meet in 1980.

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<sup>1</sup> The WHO Special Programme of Research, Development and Research Training in Human Reproduction and the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases.

(b) Region of the Americas

7. The regional ACMR has concentrated on health services research, with particular emphasis on the need to extend health services coverage. Working groups have been constituted to study these problems and their conclusions were presented to the Subcommittee on Health Services Research of the global ACMR in June 1979.
8. Following the recommendations of a working group, and in view of its importance in the Americas, amoebiasis has been included as part of the programme on diarrhoeal diseases.
9. National and subregional meetings have been held to promote the definition of national policies in health research, including the study of present and future coordination strategies, training of manpower, and ethical aspects.
10. An inventory of human and material resources for health research has been completed for all countries of Central America, with the exception of Nicaragua. Surveys are being carried out in Bolivia, Colombia, Ecuador, Mexico and Peru, and will soon be initiated in Argentina, Brazil, Chile and Venezuela.
11. Research training grants and medical research grants are being used to strengthen national research capabilities and to assist young scientists in training as well as in reintegrating into their home institutions. Furthermore, support is given to scientists from developed countries who carry out training programmes in and for the benefit of developing countries.
12. Special emphasis has been given to the inclusion of research and training programmes in the curricula of postgraduate studies in public health in universities in Brazil, Colombia, Costa Rica, Cuba, Dominican Republic and Mexico.
13. The Organization's centres continue to carry out research in: nutrition - Institute of Nutrition of Central America and Panama (INCAP) and the Caribbean Food and Nutrition Institute (CFNI); zoonoses - Pan American Foot-and-Mouth Disease Center (PANAFTOSA) and Pan American Zoonoses Center (CEPANZO); sanitary engineering, environmental health and ecology - Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) and the Center for Human Ecology and Health (ECO); and perinatology - Latin American Center for Perinatology and Human Development (CLAP). The Regional Library of Medicine and the Health Sciences (BIREME) is expanding its information network and offers a strong programme of selective dissemination of information.

(c) South-East Asia Region

14. The South-East Asia Advisory Committee on Medical Research (SEA/ACMR) has reviewed the progress of research in the Region, which is progressively developing to include almost all the priority areas identified by the Committee at its first session in 1976. Following a resolution of the Regional Committee calling for the allocation of 5% of the regional budget for research, the activities of the programme were enhanced in mid-1978. This enabled WHO further to promote and support several research projects in recommended priority areas, as well as training in research through structured courses and opportunities under the visiting scientists/research training grants schemes.
15. The mechanisms developed to implement the research programme allow for the requirements of national governments as well as those of the Organization. Close liaison has been established with all echelons of WHO, at national as well as global level. Regional Office procedures are kept under review to improve the mechanisms, in order to permit further speedy action with built-in flexibility to satisfy the varied requirements of Member States.
16. Because the useful results of research are not at present fully utilized, WHO has involved programme administrators, policy makers together with research scientists in research activities in the Region. This approach has rapidly built up a greater sense of awareness, not only among research institutions and scientists, but also within ministries of health, which are the principal utilizers of research results.

17. In order to promote better coordination of research within countries as well as collaboration within WHO, and among the countries themselves in the spirit of TCDC, the Organization has taken steps to promote concerted efforts on the part of all the authorities concerned in Member States in order to develop research policies, priorities and plans, including the development of the manpower required and institutional strengthening. The development of such mechanisms within countries is seen as a useful trend for the development of WHO's own medium-term programme as well as its General Programmes of Work, in addition to the benefit that is expected to accrue to the countries.

18. The Region, through a process of upward synthesis of country requirements, has contributed to the development of the Organization's programmes in health services research, diarrhoeal diseases, and nutrition action-cum-research. The global programmes that are being developed through these mechanisms truly reflect national and regional needs.

19. Close collaboration has been maintained with the two special programmes, namely, the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases and the WHO Special Programme of Research, Development and Research Training in Human Reproduction. Research proposals have been contributed for consideration under these two special programmes.

(d) European Region

20. Health services research has been the principal focus of planning activities for research in the European Region. At its second session, in October 1977, the European Advisory Committee for Medical Research (EACMR) identified five areas within the general context of health services research which merited high priority for future research promotion and development efforts. These were broadly regarded as distinct from, but nevertheless complementary to, the acknowledged research needs of the major programmes of the Regional Office, which deal with the care of the elderly, cardiovascular diseases, health manpower development, mental health, nursing, promotion of environmental health, and road traffic accidents. The five research priorities are:

- (1) standardization of methods, measurements and terminology in biomedical and health services research;
- (2) prevention, prophylaxis and early detection;
- (3) evaluation of drugs and other therapeutic and diagnostic substances;
- (4) problems in health care delivery;
- (5) economic aspects of health care.

21. In respect to each of the above priority areas, a planning group was initially convened; subsequently, a consolidated report has been prepared which identifies problem areas for research and also recommends action. From the outset it was recognized to be of particular importance to achieve effective coordination with ongoing activities in Member States, and mechanisms are evolving to ensure that the priority areas identified by the EACMR are not merely in harmony with, but indeed are responsive to, the scientific needs identified by countries in the Region. As a consequence, a fresh dialogue has been set in motion between the Member States and the Regional Office with the ultimate objective of formulating an intercountry team approach in research for the benefit of the entire Region. In particular, the importance of appropriate information in order to achieve effective coordination has been fully recognized. The Sixth Planning Group on Information Needs met with the objective of utilizing data in countries to build up useful information of regional scope. The importance of information based on national systems was particularly stressed.

22. Throughout this process of identifying and refining priorities, effective liaison has been maintained with other groups broadly active in medical research. Cooperation has been maintained with the European Medical Research Council, and a meeting of European bodies primarily concerned with the subregional coordination of health services research was held in

September 1979. During this meeting possibilities for enhanced coordination of current as well as future service-related research activities were reviewed, and the need for active coordination and liaison was confirmed.

23. In order to ensure a definitive focus on a major health problem in Europe, it has been decided to develop further initiatives around the common theme of research on hypertension as it relates to health care. As part of this process a review was made of information available on 135 hypertension research studies now in progress in the Region. Hypertension serves as a useful model for a variety of reasons, including its interactions with other major chronic diseases in the Region, e.g. diabetes, renal disease, ischaemic heart disease, atherosclerosis and stroke. Moreover, the wide range of factors in hypertension provides an unusual opportunity to take into consideration multiple aspects of relevant health services such as the evaluation of contributing and risk factors, screening and detection, clinical management of hypertensive disease, and an assessment of risk/cost benefits.

24. The European Regional Committee has been specifically consulted and particularly helpful throughout this early process wherein research priorities are identified and substantive programme initiatives have been evaluated. In addition there has been an active and reciprocal relationship between the EACMR and the global ACMR through a modest overlap of membership as well as active liaison at the Secretariat level.

(e) Eastern Mediterranean Region

25. Health services research has continued to receive high priority in the regional research programme and a number of research and training activities have been implemented, such as the pre-course workshop, the regional orientation course in health services research, and the national workshop held in Islamabad. National workshops will be held in several more countries of the Region, and adequate support will be provided for the development and implementation of research projects arising from them.

26. Controlled trials for assessing the effectiveness of oral rehydration in children under the age of three years have been carried out in two countries of the Region. They have provided evidence that oral rehydration in mild and moderate diarrhoeal diseases of children, using the formula recommended by WHO and UNICEF, is feasible at village level and is effective in producing speedier rehydration and recovery. It also has a marked effect on the nutritional status for at least six months after the episode of diarrhoea so treated. This latter finding was somewhat unanticipated and requires further explanation; it could have significant, positive implications for child health.

27. A regional research programme for promoting and developing traditional medicine has been developed. Its objectives are to collect baseline information on traditional practitioners and their practices, and to promote their utilization in the delivery of health services.

28. The subject of liver diseases was studied by a regional scientific group, which assessed the magnitude of this problem in the Region and laid down a programme of work to further knowledge of these diseases.

29. It has been decided to establish a regional advisory panel on parasitic diseases. This panel will concern itself with schistosomiasis, filariasis (including onchocerciasis), trypanosomiasis, leishmaniasis and other parasitic diseases of importance to the Region, excluding malaria, for which a separate panel has already been established. Proposals for field research in malaria have been reviewed and endorsed by the Eastern Mediterranean Advisory Committee on Medical Research (EM/ACMR). They include activities related to biological control, environmental management, effects of antimalarial drugs, and integrated approaches to malaria control.

30. A regional medium-term programme for research promotion and development has been formulated. Its main emphasis is on the development of national research capabilities, national determination of research priorities in the light of social health policy, and implementation of relevant research activities. The strengthening of research capability in

countries will be mostly carried out through collaboration with national biomedical scientists in planning and organizing relevant research studies and through provision of training in research practices and methods. Development of national capabilities in research management will be given high priority in activities dealing with strengthening of research capabilities. An important component of the regional programme is to facilitate the transfer of existing and new knowledge dealing with control and prevention of common diseases, and its subsequent utilization in the development of comprehensive health services.

31. The EM/ACMR, while noting the flexibility of the proposed programme, which could be modified in the light of experience gained during its progress, recommended that medical research councils or analogous bodies, where they exist in countries of the Region, should be closely associated in future planning and implementation of the regional medical research programme.

(f) Western Pacific Region

32. The strengthening of national research capabilities has been one of the major preoccupations of the Western Pacific Advisory Committee on Medical Research (WP/ACMR), which identified three institutes in three countries of the Region for initial support. Research grants were also awarded to support the development of an interdisciplinary research programme against Schistosoma japonicum. A wider distribution of WHO collaborating centres by discipline and country is being planned and collaboration of centres with each other encouraged. Furthermore, preparations have been made to convene a working group of directors of national medical research councils in February 1980.

33. A number of research themes have been promoted as part of WHO programmes of technical cooperation, following the recommendations of the WP/ACMR:

- (1) Research on clonorchiasis and paragonimiasis;
- (2) An interdisciplinary, multicountry programme on diarrhoeal disease control, with emphasis on operational aspects of control measures;
- (3) Intervention studies aimed at reducing mortality and morbidity from acute respiratory infections by at least 50% by the year 2000;
- (4) In addition to the above three major efforts, research is being promoted in:
  - (a) the application of modern immunological techniques;
  - (b) diabetes in Polynesian and Micronesian islands;
  - (c) health hazards of working populations, especially in connexion with changing occupational environments;
  - (d) vector control measures;
  - (e) the methodology and planning of health services research.

34. Intercountry training activities in the community control of cardiovascular diseases have been implemented and will be followed up by a longer course on the epidemiology of both communicable and noncommunicable diseases. Similarly, the activities of the working group on health services research will be followed by national courses.

35. The concern of the Organization to develop self-reliance in research in developing countries has been expressed individually to national health authorities and, through the WHO Programme Coordinators and other official contacts, questionnaires have been completed for five countries in the Region. In two of the five countries surveyed, professional career development in full-time health research does not exist, either for physicians or other medical scientists or for technicians. In three of the five countries, special incentives are

given to support full-time research workers in health or biomedical sciences and, in those same countries, there is a legislative basis for the provision of support for health and biomedical research. In some developing countries of the Region, the conditions of service for research workers have recently improved, e.g. special salary scales for full-time research workers have been established. Elsewhere, however, medical staff need to supplement their income with private practice, whereas research scientists and technicians often receive unrealistically low salaries.

#### The special programmes of research and training

##### (a) Special Programme of Research, Development and Research Training in Human Reproduction

36. The Programme now involves scientists from 70 countries - 46 of them developing countries - in its activities, which relate to research on the safety and efficacy of current methods of fertility regulation; the development of new methods; research on the psychosocial aspects of fertility regulation; health service research on family planning; studies on the diagnosis and treatment of infertility; and research training and institution-strengthening for research in these areas.

37. The results of the research, which is conducted on a collaborative and multicentred basis, are becoming available in increasing volume and are disseminated widely. One thousand scientific articles resulted from work coordinated and supported by the Programme during the first five years of operation. A further thousand articles have been generated in the past two years. They are addressed to the clinical and scientific community, and also, in the form of guidelines from the Programme, to public health authorities. Drug regulatory agencies also are increasingly using the results of the Programme's research in their own decision-making. Another mechanism for information dissemination is collaboration with national authorities or academic institutions in developing countries in organizing national or regional seminars for scientists and administrators, mostly in the past year. These have dealt with recent advances in research on fertility regulation, but also specific topics such as infertility, birth control vaccines, and the safety of oral contraceptives.

38. Practically all the research on current methods of fertility regulation, psychosocial and service aspects of family planning, and infertility has been carried out in developing countries. The Programme's activities during the past seven years to strengthen research manpower and facilities in such countries have been instrumental in bringing this about, but a great deal of institution-strengthening still remains to be done. This has led the Programme to lay even more emphasis on this aspect in the past year and in its plans for the next few years.

39. An in-depth assessment of the Programme's research training activities since its beginning was carried out in 1979. About 400 training grants have so far been awarded to scientists from 66 countries. These figures do not include an approximately equal number of participants in short training courses. A follow-up of trainees showed a very low rate of brain drain and a high percentage of ability to apply the training on return to the home institution. This was in part due to the Programme's close integration of research and research training.

40. The Programme continues to interact closely with medical research councils and other agencies promoting and supporting research in its field. An annual meeting of such agencies, convened by the Programme, ensures coordination of activities.

41. In spite of the continued generosity of several Member States in contributing to the Programme, its income falls short of the budget required to meet the growing demands from governments for collaboration in research and institution-strengthening.

(b) Special Programme for Research and Training in Tropical Diseases<sup>1</sup>

42. The Special Programme has now completed its second year of essentially full operations and details of its activities during 1978/79 are provided in the third annual report.

43. Substantial progress was made during the year in establishing the network of activities for the development of means to control the six tropical diseases covered by the Programme. At the same time, significant steps were taken to strengthen the research capability of affected countries. So far the Programme has awarded a total of 600 grants for research development and research capability strengthening, in a total of 66 countries. Of these, over half (320) were funded during the year ending 30 June 1979. In the first year of partial operation (1975/76) only 13% of funds for projects were awarded to scientists from developing countries. By 1978/79 the proportion disbursed to scientists and institutions in developing countries had increased to 52%.

44. In the field of research and development, scientific working groups are operating for each of the six diseases under the Programme, and trans-disease scientific working groups in epidemiology, biological control of vectors and biological sciences also functioned during the year. Preparatory meetings took place for the scientific working groups for social and economic research and for vector ecology and behaviour.

45. In the area of research capability strengthening, emphasis is placed on activities in support of selected institutions in tropical endemic countries, and the training of scientists from these countries. From the start of the Programme to end October 1979, 109 research training and visiting scientist grants and eight re-entry grants have been awarded, and 25 institutions have received various types of support. A strategic plan for long-term development of the research capability strengthening component of the Programme has been prepared and is under review. All activities are being developed in close collaboration with national authorities, in the context of national needs and resources.

Medium-term programme for research promotion and development (MTP/RPD)

46. The Executive Board has already underlined the concept that the medium-term programme for research promotion and development (MTP/RPD) "would be concerned with promotion and coordination of research, and that under each of the other medium-term programmes the relevant research components will have to be elaborated".<sup>2</sup> Thus the MTP/RPD is not conceived as an exhaustive compendium of research components of the relevant programme areas, compiled from the respective medium-term programmes; rather, it is an attempt to outline approaches and processes to programme activities for the promotion and coordination of research in the Organization as a whole.

47. In this context, and in response to a series of World Health Assembly resolutions (the latest being resolution WHA32.15),<sup>3</sup> the MTP/RPD is being developed as a flexible framework of approaches and activities related to the research promotion and development objectives specified in the Organization's Sixth General Programme of Work (1978-1983). Within this general framework, Member States should be able to identify activities relevant to their own national priorities and to determine the extent to which they wish to participate in technical cooperation relationships for the promotion and development of health research.

48. This approach to the MTP/RPD has necessarily meant some modification and adaptation of the existing methodology and mode of presentation of the Organization's medium-term programmes; nevertheless, in devising the basic structure of the draft MTP/RPD, established general guidelines for the preparation of an MTP have been followed closely. The draft MTP in its

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<sup>1</sup> Co-sponsored by UNDP, the World Bank, and WHO.

<sup>2</sup> Document EB63/48, p. 78.

<sup>3</sup> Document WHA32/1979/REC/1, p. 14.



present form has had a preliminary review by the Headquarters Programme Committee as well as a fairly detailed examination during the Third Interregional Meeting on the Coordination of Research in November 1979.

49. As indicated in the table of contents of the draft MTP (see Annex) chapters 5 and 6 constitute the main programming section and require country consultations in order to generate regional inputs that are based on realistic national expectations and targets. Although such consultations must go on as a continuing process, it is anticipated that during the next few months it will be possible to complete the MTP/RPD for the period 1978-1983 on the basis of information that has accrued so far.

### III. RESEARCH CAPABILITY STRENGTHENING AND CAREER STRUCTURES IN DEVELOPING COUNTRIES

50. The strengthening of national research capability, especially in developing countries, is an essential complementary activity to research itself and takes place concurrently with research promotion and development activities. The main approaches include research manpower training at all levels, direct institutional strengthening, and the development of collaborating and other centres for research and training. The activities in support of these approaches form an integral part of essentially all regional and global research development efforts; the Special Programmes for Research and Training in Human Reproduction and Tropical Diseases, for example, have substantial built-in responsibilities to strengthen national research capability.

51. An equally important consideration related to the strengthening of national research capability is the urgent need to promote the establishment of national research career structures to ensure that, when strengthened, research capability can be maintained and can grow at an effective operational level. The appropriate employment of research personnel is therefore an essential counterpart of research capability strengthening and is intimately linked with the general subject of research and development.

52. Available global research and development figures based on 1974 estimates<sup>1</sup> indicate that there are some 3 million research and development scientists and engineers throughout the world: 93.9% are employed in developed countries and 6.1% in developing countries. The average expenditure on research and development per scientist or engineer is US\$ 35 400 in developed and US\$ 14 500 in developing countries. Developed nations devote on the average 2.29% of their gross national product (GNP) to research and development; the corresponding figure for developing countries is approximately 0.33%.

53. As far as health research specifically is concerned, the global expenditure is estimated at 7% of the world's expenditure on research and development as a whole and follows similar geographical distribution trends. Consequently, the need to strengthen the health research capability of developing countries, and the related concern for appropriate career opportunities in these countries, is part of the wider question of how much they are willing or able to spend on research and development.

54. There is evidence that a start has been made in the right direction. For example, between 1970 and 1974 the proportion of GNP spent by developing countries on research and development increased from 0.2% to 0.33%, in pursuit of the target of 0.5% of GNP proposed for the end of the Second United Nations Development Decade (1970-1980). Global figures of any kind are prone to certain shortcomings; nevertheless, they can at least indicate an order of magnitude of differences and trends.

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<sup>1</sup> UNESCO. Estimation of human and financial resources devoted to R and D at the world and regional level. Paris, May 1979.

55. It is not known to what extent the increasing expenditure of developing countries on research and development contributes also to the related problem of career structures for scientists in these countries. However, the problem itself is well known. There are two main aspects: (i) the absence or inadequacy of tenured posts and career structures in certain fields, e.g. epidemiology, entomology, malacology, and biostatistics; and (ii) the relatively noncompetitive conditions of service, which act as disincentives to the recruitment of researchers and compel those who do take up research to carry on other remunerative activities in order to supplement their incomes.

56. Efforts to study this difficult and urgent problem and bring it to the attention of Member States are being coordinated in three phases: data collection; consultation with Member States; and communication to WHO policy bodies. It is not intended that these phases be followed in a rigidly stepwise manner. Indeed, although data collection is still continuing actively at the country level, the regions most concerned with this problem have already discussed it at the Regional Committee level. Furthermore, the attention of a number of national health authorities has been drawn to the need to "provide career structures which permit research workers to devote their time fully to research and which attract young workers".<sup>1</sup>

57. On the other hand, it must be noted that in some developing countries, the conditions of service of research workers have recently been reviewed and special salary scales for full-time research personnel have been established. In others, special incentives, backed by appropriate legislation, have been granted to full-time health and biomedical research workers. However, in spite of such positive indications, the situation as a whole remains a serious obstacle to the achievement of national self-reliance in health research.

58. WHO is concerned about this general lack of adequate career structures and recognizes that attempts to strengthen research capability can ultimately succeed only to the extent that governments themselves deal effectively with the problem. Many ACMR members and other concerned scientists share this view and preliminary contacts have confirmed the pressing need for further action.

59. Any realistic approach to the problem of lack of adequate career opportunities for health research workers in developing countries will first have to address certain pertinent questions:

- (1) What is the minimum, recommended range of career posts required for the research team approach to a given priority health problem?
- (2) Which research or research-supporting skills (or posts) are amenable to, or recommended for, sharing between countries in the spirit of technical cooperation or joint responsibility?
- (3) What are the potential budgetary implications and benefits of establishing and maintaining career structures appropriate to the recommended range of research and its supporting needs?
- (4) How may the career requirements for health research be integrated into an inter-sectoral approach to research and coordinated with the total needs for research and development generally?
- (5) How may national educational and manpower development systems be adapted and coordinated to fulfil the long-term personnel requirements for research development?

60. There are no simple or uniformly valid answers to these and similar questions that could be asked; each question must be answered in the context of specific and usually national circumstances. However, examples of approaches or combinations of approaches exist

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<sup>1</sup> Resolution WPR/RC29.R10.

in many countries and a few may be mentioned: creating tenured research posts in universities and health departments to carry out commissioned health research; establishment of health research institutes with full-time staff; provision of salary supplementation, merit awards or other incentives in kind to health research workers; granting long-term research fellowship support to young research workers identified through a national talent search scheme.

61. No single approach can by itself guarantee the desired effect on research capability strengthening or achieve the goal of health research that is both relevant to social needs and effective in its quality and scope. Other factors of a purely local or national character are important in determining the choice of approach and its likely outcome. It is therefore important to study carefully selected examples in the national setting and to derive from such case studies formulations for the guidance of national policy decision-makers.

62. Finally, it must be conceded that there is frequently too long a delay between health research achievement and the benefits of its impact on the health of society. This fact makes it difficult for health research to compete for national resources on equal terms with other enterprises that promise short-term and more visible gains. And yet, health research is among the decisive factors for the attainment of the goal of health for all by the year 2000 and, in a wider sense, long-term investment in research is a concrete expression of hope for the future. This is the basis for the commitment to promote research and development and to strengthen national research capabilities. However, efforts in this regard will not succeed unless, at the same time, they are linked with successful attempts to provide satisfying career opportunities for those who are trained to carry out the research.

#### IV. UNITED NATIONS CONFERENCE ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (SUMMARY NOTE)

63. The United Nations Conference on Science and Technology for Development (UNCSTD), held in Vienna from 20 to 31 August 1979, was the culmination of two-and-a-half years of work by a Preparatory Committee consisting essentially of the United Nations Committee on Science and Technology for Development (CSTD), which functioned under the aegis of the Economic and Social Council. The idea of convening UNCSTD had been discussed as early as 1971 in the United Nations General Assembly, and later by the Advisory Committee on the Application of Science and Technology to Development (ACAST), which had come into being in 1964 as a result of the 1963 United Nations Conference on Science and Technology.

64. The first of the five Preparatory Committee sessions for UNCSTD was held in January 1977, when J. F. da Costa (Brazil) was elected Secretary-General of UNCSTD. As former chairman of CSTD, and previously as Ambassador of Brazil to UNESCO, he had considerable interest in the impact of science and technology on social development in both developing and developed countries. His view from the outset, which was supported by the Preparatory Committee, was that UNCSTD should be focused on political decisions at the ministerial level, rather than on the substance of science and technology which had dominated the 1963 Conference. The five sessions of the Preparatory Committee before the Conference were in essence devoted to resolving fundamental differences involving a possible plan of action, and institutional and financial arrangements for its implementation. Ultimately the Conference itself was faced with trying to reach agreement on the following three principal points:

(1) A global information system, and governing principles for the transfer of technology which would provide technical know-how to developing countries from the advanced industrialized countries on an unrestricted basis;

(2) Institutional arrangements, particularly within the United Nations system, which would ensure a high status for an Intergovernmental Committee on Science and Technology for Development (ICSTD), open to all interested governments, which would report directly to the General Assembly, and not be responsible to the more restricted membership of the Economic and Social Council;

(3) Automatically renewable financing to be supplied, primarily by the industrialized countries to implement the Plan of Action; the sums of US\$ 2000 million by 1985 and US\$ 4000 million by 1990 were used by the developing countries in their proposals.

65. Debate centring on the above points occupied two committees for the 10 working days of the Conference. One committee considered how to strengthen research and development institutions and training in the less developed countries, and problems of technology transfer, patents, and an international code of conduct. The second concentrated on the optimum use and perhaps restructuring of the United Nations system, and the financing of the entire undertaking. Parallel plenary sessions were devoted to formal statements by leaders of delegations, officials of the United Nations system including the specialized agencies, and a few nongovernmental organizations. Dr T. Lambo, Deputy Director-General, presented the statement on behalf of WHO and introduced the WHO background document Science and technology for health promotion in developing countries (document A/Conf.81/BP/WHO).

66. Some diversion from the Conference itself was provided by exhibits by some national delegations and commercial interests, and a programme of panel discussions by nongovernmental organizations. These assemblies were held at different parts of Vienna, away from the Conference hall, and attendance at them was only modest.

67. WHO also participated actively in a week-long meeting sponsored by ACAST held immediately before UNCSTD and attended by some 200 participants, many of them from developing countries. Discussions at this meeting involved selected technical aspects of food, agriculture, health, transport and industry. In addition, a number of scientists involved in work with the WHO Advisory Committee on Medical Research participated actively in the ACAST-sponsored meeting.

68. The outcome of UNCSTD's negotiations on the points mentioned above may be summarized as follows:

- (1) There was minimal progress in facilitating access to industrial information, and to patent rights and transfer of technology in general. A global information system was agreed in principle, but its structure and character were left undefined.
- (2) The proposed Intergovernmental Committee on Science and Technology for Development (ICSTD) will be open to all interested nations, and will report to the General Assembly through the Economic and Social Council; the latter will only comment on, but not change, the recommendations of ICSTD.
- (3) Coordination of the post-UNCSTD programme of the Plan of Action, of which many key issues remained unresolved, will be centred in the office of the Director-General for Development and International Economic Cooperation, United Nations headquarters, New York. The required secretariat support was left for future negotiations.
- (4) A figure of US\$ 250 million was named as the target for the first two years of operation. An automatically renewable fund was rejected and formulation of a budget and programme was not precisely defined. UNDP is to manage the funds, at least for the first two years.
- (5) Groups of experts will be convened on an ad hoc basis to advise on various matters, in place of the ACAST mechanism.

69. There is ample evidence of the goodwill and even eagerness on the part of scientists throughout the world to cooperate with developing countries in promoting science and technology. This invaluable resource is only beginning to be tapped. In addition to new breakthroughs of great significance to the developing countries (e.g. the transfer of nitrogen-fixing genes to common cereals), the application of known procedures to significant obstacles in developing countries, such as improved water pumps and energy producing and conservation devices, could be most beneficial. There is a conspicuous need to channel such innovations to institutions where implementation can be promoted on a collaborative basis between developing and developed countries. The post-UNCSTD mechanism faces a real challenge and opportunity in this connexion.

BIOMEDICAL AND HEALTH SERVICES  
RESEARCH PROMOTION AND DEVELOPMENT

Medium-term Programme (MTP) - 1978-1983

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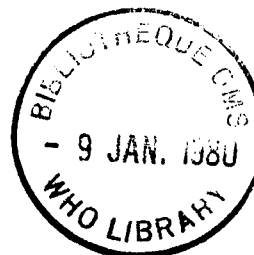
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EXECUTIVE BOARD

Sixty-fifth Session

Provisional agenda item 20



INDEXED

DEVELOPMENT AND COORDINATION OF BIOMEDICAL AND HEALTH SERVICES RESEARCH  
(INCLUDING RESEARCH STRENGTHENING AND CAREER STRUCTURES  
IN DEVELOPING COUNTRIES)

Global Advisory Committee on Medical Research (ACMR),  
twenty-first session, Geneva, 19-22 November 1979

Report by the Director-General

This addendum to the Director-General's report, which contains a summary of the proceedings and recommendations of the global ACMR, is presented for the information of the Executive Board.

I. PROGRESS REPORTS RECEIVED

1. The reports on research activities in the regions and on progress in the Special Programme of Research, Development and Research Training in Human Reproduction and in the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases have already been summarized in section II of the main report (document EB65/20).
2. In considering the reports from the regional ACMRs, the global Committee noted that the presence of its Chairman at meetings of the regional ACMRs and at all ACMR subcommittee meetings provides an invaluable means of coordinating the functions of the network of advisory committees. The Committee therefore recommended that financial provision be made for this purpose and that headquarters staff from major units, as appropriate, should also continue to participate in the meetings of the regional ACMRs to complement and enhance even further the efforts of the Chairman of the global ACMR.
3. After reviewing the progress reports of the special programmes, ACMR felt that if WHO applied the special programme approach to programming in other areas, this would make a significant contribution towards solving many of the problems that stand in the way of health for all by the year 2000. In this regard, ACMR recommended that:
  - (i) every effort be made to increase the donor base of the Special Programme of Research, Development and Research Training in Human Reproduction, in order to ensure the Programme's durability and further development;
  - (ii) there should be a significant increase in the budget of the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, to permit the exploitation of opportunities which now present themselves and the exploration of new potentially productive lines of research.

## II. REPORTS OF ACMR SUBCOMMITTEES

4. The ACMR subcommittee on information held two meetings and dealt with the following three major areas:

- (i) methods to improve the selective dissemination of biomedical and health research information, using as a specific example research information on tropical diseases;
- (ii) interim arrangements to strengthen health science libraries, which act as the national focal points in developing countries, and to develop regional networks;
- (iii) the feasibility of indexing health research literature, including "fugitive" literature such as the governmental studies reported in the developing countries.

5. The global ACMR accepted the proposals of the subcommittee, and endorsed a recommendation that extrabudgetary funds should be sought for selective dissemination of information to research workers in developing countries.

6. The diarrhoeal diseases subcommittee met in Atlanta, Georgia (United States of America), from 17 to 19 September 1979 and reviewed the objectives and strategies of the action-oriented diarrhoeal diseases control (CDD) programme. A series of meetings of scientific working groups had previously recommended research priorities in the following areas:

- immunology and vaccine development;
- clinical management of acute diarrhoea;
- child care practices related to diarrhoea;
- environmental health and diarrhoeal disease prevention;
- epidemiology and etiology.

In the area of epidemiology and etiology, because of the large number of diarrhoeal pathogens, five smaller subgroups, rather than one large group, are being convened on specific topics, e.g., Escherichia coli, rotavirus, cholera, salmonellosis, and parasite-related diarrhoeas.

7. The subcommittee also reviewed the scheme of research management being developed for the CDD programme. It recommended that the management of the research component be designed, as far as possible, according to the principles of the special programmes (e.g. scientific working groups, steering committees, scientific and technical advisory committee, etc.), but modified to meet the special needs of the CDD programme.

8. ACMR noted that a number of activities related to the CDD programme were already in progress in all the regions and that one of the distinctive features of the research management structure proposed for the programme is that regional participation in research management has been built in and ensured from the beginning. It was also suggested that the desirability of having a body or mechanism similar or analogous to the Joint Coordinating Board of the Special Programme on Tropical Diseases may have to be considered later on, in order to enable donors and countries, especially countries where diarrhoea is endemic, to become more actively involved and to participate fully in the programme.

9. ACMR adopted the report and recommendations of the subcommittee and emphasized the special opportunity that the CDD programme offers to potential donors in efforts to reduce mortality and morbidity from diarrhoeal diseases.

10. The subcommittee on health services research (HSR) reported on the outcome of three meetings. It considered the nature and scope of HSR and defined it as "the systematic study of the means by which biomedical and other relevant knowledge is brought to bear on the health of individuals and communities, under a given set of existing conditions". The subcommittee emphasized that HSR and biomedical research are complementary and not competitive activities. Biomedical research provides the knowledge necessary to improve health while HSR, on the basis of that knowledge, helps to devise effective practices that recognize the social, cultural and political factors which influence health. Although the findings of HSR are nearly always specific to a given culture, the principles and methods are usually transferable.

11. At present, the principal obstacle to progress in HSR is the lack of trained personnel in almost every country. Therefore, emphasis should be placed on rapidly increasing training at every level of professional responsibility; orthodox postgraduate university courses are not of themselves sufficient to meet the urgency of the need. The understanding, sympathy and active participation of politicians and government administrators, of behavioural and health scientists and of the medical profession itself, at country level, are essential. The subcommittee made a number of other recommendations concerning, inter alia, the preparation of a WHO booklet on the concepts and methods of HSR (giving concrete examples), and the need for extrabudgetary financial assistance to cover the estimated cost of operations for a period of two years from the time of funding.

12. ACMR endorsed all the subcommittee's recommendations and affirmed the desirability of early action on extrabudgetary funding and the WHO booklet on HSR. This action is designed to assist in meeting the urgent need of countries to establish rapidly broadening HSR activities as an integral part of improving primary health care and making progress towards the goals of health for all by the year 2000.

13. The nutrition subcommittee proposed that, as a basic strategy for the nutrition research programme, emphasis must be mainly directed to infants and young children and that the major objective should be to identify actions which can be implemented at the community level in order to combat malnutrition in the prevailing context of socioeconomic constraints.

14. In support of this strategy the subcommittee recommended studies in five broad areas, including: the identification of locally available and culturally acceptable weaning foods; the interaction between infection and malnutrition; the influence of maternal malnutrition on the offspring; the prevention of nutritional blindness, anaemia and rickets; and strategies for the delivery of a "nutritional component" as part of primary health care.

15. ACMR noted the subcommittee's view that immediate and simultaneous action with regard to all the five areas may not be possible, that the priorities in these areas as perceived by the different regions may vary, and that the programme may require to be phased in the context of available resources.

16. With regard to management, ACMR recommended that a coordinated programme be worked out using the procedures employed in the planning of the diarrhoeal diseases programme and expressed the hope that the planning phase will lead to the development of a sharply focused research programme during 1980.

#### Ethics

17. ACMR received a progress report relating to the work of the joint WHO/CIOMS group which is considering ethical review procedures for research involving human subjects. A number of countries have well-developed review procedures; however, in many countries there are no arrangements for ethical review, and not even systematic recording of what research is being done. A study is therefore under way for the development of guidelines for ethical review, with the object of stimulating the adoption of appropriate procedures in those countries where they do not at present exist. The ethical requirements that apply to research carried out in developed countries also apply to research carried out in developing countries, and there may even be a need for additional safeguards. Ethical requirements should not, however, be so framed as to inhibit vital research, e.g., on new drugs or in nutrition.



18. The final report of the study will be provided in time for the ACMR's twenty-second session.

### III. ESTABLISHMENT OF OTHER SUBCOMMITTEES

#### Research career structures

19. ACMR discussed the question of research capability strengthening and the related problem of research career structures in developing countries. It was clear that efforts to strengthen national research capability must be matched by efforts to provide sustained career opportunities for research workers in developing countries, and a number of examples were cited of how the question of enhancing research career opportunities is being tackled in some countries. ACMR therefore recommended that WHO undertake a systematic survey of these models and the conditions and circumstances under which they were judged to be either of particular value, of no impact, or perhaps even counterproductive.

20. In view of the unquestioned importance of this topic, ACMR proposed that a subcommittee be established to deal with career structures; this subcommittee should report to ACMR at its twenty-second session.

#### Research administration

21. ACMR noted that research administration in WHO is in transition, with shared and overlapping responsibilities at headquarters, regional and country levels, and that the administration of WHO-supported research involves planning and evaluation, peer group review, complex reporting mechanisms and a network of relationships with co-sponsors and donor agencies. The Committee therefore recommended that the team of three appointed to monitor the implementation of the Organization's research management plan be enlarged to form the ACMR subcommittee on research administration.

#### Mental health and neuropsychiatry

22. While fully recognizing the need for restraint in creating new subcommittees, ACMR nevertheless considered it necessary to recommend the setting up of a mental health and neuropsychiatric research subcommittee. The subcommittee's mission would be exploratory and fact-finding and not concerned with programme development, and its main focus would be in the field of mental health and primary health care in developing countries.

### IV. ACTIVITIES OF THE HEADQUARTERS RESEARCH DEVELOPMENT COMMITTEE (RDC)

23. ACMR was informed of the revised terms of reference of the Headquarters Research Development Committee (RDC), and it was suggested that RDC can bring to ACMR's attention any potentially important neglected areas of research in WHO's programmes. It can also help to clarify the management implications of proposed and ongoing research activities throughout the entire Organization.

24. ACMR agreed on the value of the functions of RDC and noted that the principal objective is to foster interprogramme communication and cooperation. The Committee took the view that RDC's role will be further clarified in practice over the coming years.

### V. THE ROLE OF WHO EXPERT ADVISORY PANELS, COMMITTEES AND COLLABORATING CENTRES

25. The Chairman of the Executive Board Working Group on this organizational study highlighted the activities and findings of the Group for the ACMR. The Committee reviewed the subject as it relates to research and concluded that because of the importance of the study to the work of the Organization, it would welcome an opportunity for further examination. It

therefore recommended that its subcommittee on research administration (see paragraph 21) should review the implications of the Executive Board's study when it becomes available. As part of this process, it was felt that it would also be worthwhile for the study to be considered in a similar manner by the regional ACMRs.

#### VI. RESEARCH ASPECTS OF "HEALTH FOR ALL BY THE YEAR 2000"

26. Three major themes of research activity emerged from discussions on this topic:

- (i) intensive disease or mission-oriented research in health priority areas, using approaches similar to that of the special programmes;
- (ii) health services research that is responsive to the need to make health services accessible, acceptable, utilizable, appropriate and cost-effective; and
- (iii) health promotion research that is geared to the development of methods of health education of individuals, communities and governments, in order to make them more self-reliant in measures for the maintenance and promotion of health.

27. To advance health research on all three fronts requires the strengthening of health research capability in all countries, particularly in under-represented disciplines such as epidemiology. It involves the mobilization of existing research capability from other fields and a predictable and adequate level of financial support for research. Progress will also depend on the rapid and discriminating communication of information relating to research methods and results.

28. ACMR emphasized the importance of distinguishing between problems which can be attacked by research and those which are of a nature which can only be resolved by policy decisions. Policies to check the deterioration of literacy in some countries, to increase domestic food production, and to revise the allocation of resources in the health sector - all of which will have a profound effect on health - require political decisions more than health research.

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